Circular 1042

COOPERATIVE EXTENSION SERVICE UNIVERSITY OF ILLINOIS

MECHANICS OF FARM FINANCIAL PLANNING

R. B. Schwart, J. M. Holcomb, and A. G. Mueller

University of Illinois at Urbana-Champaign

College of Agriculture Cooperative Extension Service

MECHANICS OF FARM FINANCIAL PLANNING

Successful farming is the result of the operator's ability to make and execute decisions that affect the profitability of the farm business. Financial management is one of the important facets of a successful business and farm operators and agricultural leaders need help in the use of financial management tools. This publication illustrates the use of some financial management tools such as profit and loss statements, net worth statements, cash flow projections, and flow of funds statements.

The forms whose use is illustrated in this publication can be obtained from your county extension office or from the Department of Agricultural Economics, 305 Mumford Hall, Urbana, Illinois 61801. Forms that are designated in this publication as Exhibits A, B, C, D, E, and F are available as Form FM-9; those that are designated as Exhibits G, H, I, and J are available as Form FM-8; and those forms that are designated as Exhibits K, L, and M may be found in Form FM-10.

This circular was prepared by R. B. Schwart, Associate Professor of Agricultural Economics, J. M. Holcomb, Professor of Farm Management and Finance, and A. G. Mueller, Professor of Farm Management.

(This circular replaces Circular 985.)

Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. JOHN B. CLAAR, *Director*, Cooperative Extension Service, University of Illinois at Urbana-Champaign. (6M—10-71—19274)

ANNUAL FARM BUDGETS

The major changes that occur from year to year in the farm business are reflected in the crop production and livestock budgets. Changes in the cash inputs are reflected in the cost of seed, fertilizer, chemicals, and feeds. Changes in output are reflected in quantities and prices of grain and livestock sold.

The crop and livestock budgets (Exhibits A, B, C, D, and E) provide part of the information needed to complete the annual financial budget, the annual flow of funds, and the farm estimated income statement.

Exhibit A: Budget Sheet for Crop Production and Crop Costs (see page 4)

List the crops to be grown on each field, the field numbers, the acres, and the estimated yield. Calculate total production by multiplying the acres by the estimated yield.

In the seed section, list the varieties, the rate per acre for each variety, and total quantity of variety of seed.

In the fertilizer section, list the analysis of each fertilizer to be used, the rate per acre, and the total amount of fertilizer required.

In the chemical section, list the kind or trade name, the rate of application per acre, the total quantity needed.

The example in Exhibit A lists all corn as a unit for fertilizer and chemical applications since the same fertilizer and chemical applications are applied to all the corn. The corn crop it listed by individual fields for the application of seed because different varieties of seed were used in different fields. The soybean crop is listed as a unit because the same seed and chemical treatment is used for the entire crop.

Exhibit B: Summary of Crop Costs (see page 4)

List fertilizer, seed, and chemicals in the appropriate sections and indicate the kind, the total quantity of each kind, the cost, and the month when the cost is to be paid. The fertilizer is separated by analysis so that costs can be computed. The seed corn is grouped together because the total of 81 bushels is listed as a total contract price. The Wayne soybean seed is listed and the quantity indicated, but no cost is indicated because the seed was produced and carried on farm inventory.

If costs are shared with the landlord, indicate the operator's share (see Exhibit B cost column with the superscripts "½"), and include only the operator's share of the cost in the annual financial budget (Exhibit H).

Exhibit C: Budget Sheet for Livestock (see page 5)

Enter the kind of livestock for each group of animals. Lots of feeder cattle of different weight groups or sex should be listed on separate lines. Breeding livestock should be grouped separately for each farrowing or calving period. Purchased feeding livestock should be listed separately from raised breeding livestock. Indicating the approximate average weights of feeder cattle, feeder lambs, or market hogs at inventory time may be helpful.

Enter the number and value of each livestock group on beginning inventory.

Capital purchases include breeding livestock purchased during the year. The entry should include the number, total cost, and the month of purchase. If breeding stock is grown on the farm, list the livestock as a capital sale from the young stock or market group and as a capital purchase in the breeding livestock group. Exhibit C shows that 20 market hogs are transferred in September to the group of brood sows. List only the number and the month of such a transaction.

Operating purchases include the number, the total cost, and the month of feeder livestock purchased during the budget year. Show sex of the livestock if it is a price factor.

The number raised indicates the number of livestock produced by the breeding herd during the year.

The capital sales columns include the number, total value, and the month of sale of all breeding livestock sold.

The operating sales column includes the number, total value, and the month of sale of all market livestock sold.

The ending inventory columns include the number and the value of livestock that will be on hand at the end of the budget year.

An allowance for death loss should be included in the plan. The right-hand margin can be used to reflect the death losses which can be based on the operator's previous years' experience.

The total number of livestock on each line to the left of the center double line should equal the number to the right of the center line if death losses are considered.

Compute totals for the beginning and ending inventory values by categories: (a) total market livestock, (b) total raised breeding livestock, and (c) total purchased breeding livestock.

EXHIBIT A

Name________________ **BUDGET SHEET FOR CROP PRODUCTION AND CROP COSTS** 19____

Address________________

Crop to be grown	Field		Yield	Total production	Seed			Fertilizer			Chemicals		
	No.	Acres			Variety	Rate per acre	Total	Kind	Rate per acre	Total	Kind	Rate per acre	Total
Corn		190	120	22,800 b.				82-0-0	200	25½ t.	Ramrod	7 lb.	1785 lb.
								0-45-0	160	19 t.	Heptachlor	7 lb.	1786 lb.
Corn Silage		65	23	1,500 t.				0-0-60	100	13 t.			
								6-18-6	100	13 t.			
Corn	1	32.0			451d	.31 b.	10						
	3	59.5			X19	"	20						
	4	59.5			840	"	20						
	6	5.9			840	"	2						
	7	16.0			45	"	5						
	8	80.6			44	"	24						
							81						
Soybeans		198	41	8,118 b.	Wayne	1 b.	200				Treflan	1 qt.	49½ gal.

EXHIBIT B

SUMMARY OF CROP COSTS

Fertilizer				Seed				Chemicals			
Kind	Quantity	Cost	Month	Kind and variety	Quantity	Cost	Month	Kind	Quantity	Cost	Month
82-0-0	25½ t.	2218	6	4517	81	1442	6	Ramrod	1785#	884	6
0-45-0	19	1574	6	X19							
0-0-60	13	688	6	840				Heptachlor	1785	482	6
6-18-6	13	560	6	45							
				44				Treflan	49½ gal.	1238	6
Lime		900	10								
				Wayne	200	—					
Total		(1/2) 5940				(1/2) 1442				(1/2) 2604	

EXHIBIT C

BUDGET SHEET FOR LIVESTOCK

Kinds[a]	Beginning inventory		Capital purchases			Operating purchases			Raised	Capital sales			Operating sales			End inventory		Died
	No.	Value	No.	Cost	Month	No.	Cost	Month	No.	No.	Value	Month	No.	Value	Month	No.	Value	
Calves	295	(1/2) 60,000											295	(1/2) 95,865	9			
Calves						300	(1/2) 51,300	10								295	60,000	5
Sows	20	(1/2) 1,200	20	–	9					20	(1/2) 1,300	11				20	1,200	
Boar	1	(1/2) 80	1	(1/2) 150	9					1	(1/2) 70	5				1	80	
Mkt. Hogs	140	(1/2) 4,200											140	(1/2) 5,400	4			
Mar. Farrow									140	20	–	9	120	(1/2) 5,400	9			
Sep. Farrow									140							140	(1/2) 4,200	
Total market		64,200															64,200	
Total breeding		1,280															1,280	
Total		65,480															65,480	
1/2 Total		32,740															32,740	

[a] Use two lines for each group of animals.

Exhibit D: Budget Sheet for Crop Usage and Feed Requirements (see page 7)

The crop-usage budget indicates the sources of home-grown feeds, whether produced or purchased, and the uses of grain, whether fed, sold, or carried on inventory.

On the odd lines, list the beginning inventory quantity and value of crops produced during the previous year.

On the even lines, list all crops to be seeded or harvested and the production in the current or budget year.

If purchases of crops are necessary for feed, enter the quantity, the total cost or value, and the month needed. On the odd lines, enter purchases of the old crop and on the even lines enter purchases of the new crop. If the amount of feed needed from the old crop exceeds the quantity in the beginning inventory, then old corn must be purchased.

The total available quantity is the sum of beginning inventory or production and purchases.

Farm use includes feed and home-grown seed used. Feed entries are from totals of livestock requirements (Exhibit E). Seed entries are taken from the crop production or crop costs figures calculated in Exhibits A or B. Only home-grown seeds used are entered.

Sales of crops include the quantity, the total value, and the month of sale.

The end-of-year inventory is calculated by subtracting the farm use and the sales from the total quantity available. The value per unit is based on market value at the farm at the date of inventory.

Exhibit E: Livestock Feed Requirements (see page 7)

Entries for feed requirements must be completed before the crop-usage budget sheet (Exhibit D) can be completed.

In the livestock columns, include the kind of livestock and the number. It is helpful to note the beginning and ending weights for each group of market livestock to facilitate estimating the amount of feed consumed and the length of the feeding period.

The period-on-feed column indicates the months that the livestock will be on feed.

List farm-grown feeds according to whether they are old or new crop. For example, all corn needed before October would be old corn and new corn could be fed after harvest time. If previous experience and records do not indicate the feed requirements, reference can be made to the Farm Management Manual or to other sources for guidance in estimating the amount to be fed.

List supplements fed separately by type of livestock. Carry the total value of supplement fed to the Annual Financial Budget (Exhibit H).

For livestock enterprises that remain constant from one year to the next, the feed requirements may be estimated on an enterprise basis. Enter the numbers of livestock as a group and use feed requirements from the Farm Management Manual. (Example: the hog enterprise in Exhibit E.)

Totals of farm-grown feed can be carried to the farm-use feed column of the Crop Usage budget sheet (Exhibit D).

Exhibit F: Capital Improvements, Replacements, Custom Hire, Repair, Labor (see page 8)

Capital improvements include new buildings, fence, tile, roads, machinery, livestock equipment, or any other depreciable items that are brought into the farm capital structure for the first time.

Capital replacements include those items purchased to replace capital items already on the farm.

Custom machine hire includes the major inputs for machinery rented or custom hired.

Major repairs include repairs to buildings, fence, equipment, and machinery.

Labor for capital improvement includes labor hired to make major improvements. It includes cost of labor that is not regularly included in the farm business expenses.

Each item listed on the form is described on the left-hand side of the form, the quantity is indicated, and the month when money will be needed for payment is shown. Most of these items are regarded as capital expenditures, except machine hire which is a farm operating expense.

Exhibit G: Family Living Budget (see page 9)

An annual financial budget for a farm operator would not be very meaningful or helpful if the demands on farm receipts by family living, savings, investments, and other nonfarm needs for funds were not taken into account. Families that keep family account records can prepare a realistic budget. Other families will need to estimate their family living needs. Institutional factors, such as holidays, the school year, and vacation periods, will have a great influence on the pattern of family spending during the year.

Families in more secure equity position may estimate their living costs as accurately as possible and transfer these monthly estimates to the annual financial budget (Exhibit H).

Families in more secure equity positions may estimate their needs for the year. These requirements

EXHIBIT D

BUDGET SHEET FOR CROP USAGE AND FEED REQUIREMENTS

Crop	Beginning inventory		Production	Purchases			Total available	Farm use		Sales			End inventory	
	Quantity	Value		Quantity	Value	Month	Quantity	Feed	Seed	Quantity	Value	Month	Quantity	Value
Corn	18,000	(1/2) 19,800					18,000	17,000		1,000	(1/2) 1,300	7		
Corn			22,800				22,800	5,000					17,800	(1/2) 19580
Corn Silage	1,200 t	(1/2) 9,600					1,200	1,200						
" "			1,500				1,500	300					1,200	(1/2) 9,600
Soybeans	8,059	(1/2) 22,565					8,059		200	7,859	(1/2) 22,565			
"			8,118				8,118						8,118	(1/2) 21,106
			(1/2) 51,695											(1/2) 50,286

EXHIBIT E

LIVESTOCK FEED REQUIREMENTS

Livestock		Period on feed	Corn, bu.						Supplement	Hay, tons		Silage, tons	
Kind	No.		Old	New	Old	New	Old	New	Tons	Old	New	Old	New
Calves 550-1100	295	Jan.- Sep.	14,000						50 t			1,200	
450-550	300	Oct.- Dec.		4,000									300
Sows	20												
Boar	1	annual	3,000	1,000					14t				
Mkt. Hogs	140												
			17,000	5,000									

50t Cattle supp.
14t Hog supp.

EXHIBIT F

CAPITAL IMPROVEMENTS, REPLACEMENTS, CUSTOM HIRE, REPAIR, LABOR

Description	Quantity needed	Month needed	Capital improvement cost	Capital replacement cost	Custom machine hire cost	Major repairs cost	Labor for capital improvement cost
Combine	1	10		15,000			
TOTAL				15,000			
GRAND TOTAL							15,000

EXHIBIT G

FAMILY LIVING BUDGET

	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
49. Food	1600	150	150	150	130	130	100	100	150	120	130	140	150
50. Household operating expenses	640	60	60	55	55	45	45	45	45	55	55	60	60
51. Household equipment and furnishings	350				350								
52. House repairs and rent													
53. Clothing	750	50		150		25	50			200		25	250
54. Personal	240	20	20	20	20	20	20	20	20	20	20	20	20
55. Entertainment and recreation	600	20	20	20	20	20	20	20	380	20	20	20	20
56. Education and reading	300	25		25		25		25		175		25	
57. Medical care and drugs	700	20	20	20	20	20	120	20	20	20	380	20	20
58. Church and welfare	500		200			100		100				100	
59. Gifts outside home	240			50			50			50			90
60. Transportation and auto	600	35	35	35	35	35	35	35	105	35	35	35	35
61. TOTAL FAMILY LIVING EXPENDITURES.	6,520	380	505	525	630	475	440	365	720	695	640	500	645
62. Life insurance	640	320						320					
63. Additions to savings and investment	640		100	100		140	200					100	
64. Income tax and Social Security	1400		1400										
65. Nonfarm business expenses													
66. TOTAL INVESTMENT AND NONFARM BUSINESS EXPENDITURES													
67. TOTAL FAMILY LIVING AND NONFARM BUSINESS EXPENDITURES	9200	700	2005	625	630	615	640	685	720	695	640	600	645

EXHIBIT H

ANNUAL FINANCIAL BUDGET BY MONTHS

	Total	Jan.	Feb.	Mar.
OPERATING SALES				
1. Livestock	53,332			
2. Livestock products				
3. Crops	11,932		11,282	
4. Other farm income				
5. Total Operating Sales	65,264		11,282	
CAPITAL SALES				
6. Livestock	685			
7. Machinery and equipment				
8. Total Capital Sales	685			
NON-FARM INCOME				
9. Non-farm wages				
10. Other				
11. Total Non-Farm Income				
12. SOURCES OF DOLLARS (5 + 8 + 11)	65,949		11,282	
OPERATING EXPENSES				
13. Feeder livestock purchases	25,650			
14. Labor hired	2,000			
15. Repairs — machinery	3,200			800
16. Repairs — building, fence, tile				
17. Rent of farm				
18. Feed purchased	3,400	300	300	300
19. Seeds, plants purchased	721			
20. Fertilizer, lime	2,970			
21. Machine hire	80			
22. Supplies purchased	1,302			
23. Breeding fees				
24. Veterinary, medicine	200			50
25. Gasoline, fuel, oil	2,800			
26. Taxes	910			
27. Insurance	1,250			
28. Utilities	376	36	35	35
29. Other	360	30	30	30
30. Total Operating Expenses	45,219	366	365	1,215
CAPITAL EXPENDITURES				
31. Livestock	75			
32. Machinery and equipment	15,000			
33. Building, tile, fence				
34. Total Capital Expenditures	15,075			
OTHER EXPENDITURES				
35. Family living, investment, non-farm (67)	9,200	650	2,050	650
36. Payments previous commitments — principal	800		800	
37. Payments previous commitments — interest	375		375	
38. Total Other Expenditures	10,375	650	3,225	650
39. USE OF DOLLARS (30 + 34 + 38)	70,669	1,016	3,590	1,865

EXHIBIT I

ANNUAL FLOW OF FUNDS

	Total	Jan.	Feb.	Mar.
40. Cash Balance — Beginning	1,000	1,000	984	1,461
41. Source of Dollars (12)	65,949		11,282	
42. Use of Dollars (39)	70,669	1,016	3,590	1,865
43. Cash Difference (40 + 41 — 42)	(3,720)	(16)	8,676	(404)
44. Money Borrowed This Year +	28,700	1,000		1,500
45. Payment on Current Loans —	23,200		7,000	
46. Interest Payments —	586		215	
47. Cash Balance-Ending +	1,194	984	1,461	1,096
48. Accumulated Borrowing 8,000		9000	2,000	3,500
	Total	Jan.	Feb.	Mar.

	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.	2,700					50,632			
2.									
3.				650					
4.									
5.	2,700			650		50,632			
6.		35						650	
7.									
8.		35						650	
9.									
10.									
11.									
12.	2,700	35		650		50,632		650	
13.							25,650		
14.	500	500					500	500	
15.			800			800			800
16.									
17.									
18.	300	300	300	300	300	300	300	300	100
19.			721						
20.			2,520			450			
21.								80	
22.			1,302						
23.									
24.			50			50			50
25.	300	500	800			200	400	400	200
26.		910							
27.				1,250					
28.	30	30	25	25	30	30	30	35	35
29.	30	30	30	30	30	30	30	30	30
30.	1,160	2,270	6,548	1,605	360	1,410	27,360	1,345	1,215
31.									
32.						75			
33.							15,000		
34.						75	15,000		
35.	650	650	650	650	650	650	650	650	650
36.									
37.									
38.	650	650	650	650	650	650	650	650	650
39.	1,810	2,920	7,198	2,555	1,010	2,135	43,010	1,995	1,865
40.	1,096	940	1,055	857	952	942	33,914	1,904	1,059
41.	2,700	35		650		50,632		650	
42.	1,810	2,920	7,198	2,255	1,010	2,135	43,010	1,995	1,865
43.	1,986	(1,945)	(6,143)	(748)	(58)	49,439	(9,096)	559	806
44.		3,000	7,000	1,700	1,000		11,000	500	2,000
45.	1,000					15,200			
46.	46					325	1,904		
47.	940	1,055	857	952	942	33,914	1,904	1,059	1,194
48.	2,500	5,550	12,500	14,200	15,200		11,000	11,500	13,500
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.

are removed at regular intervals from the farm business. A personal or family-living bank account may be maintained separately from the farm-business account. Transfers can be made monthly or quarterly from the business account to the family-living account to provide for the family requirements.

Even though the family budget was prepared in Exhibit G, transfers were made monthly in equal payments of $650 to the monthly family-living account and entered on the annual financial budget form (Exhibit H) on line 35. Income tax payment was included in February in addition to regular family living needs.

Exhibit H: Annual Financial Budget by Months (see pages 10 and 11)

The annual financial budget includes operating sales, capital sales, nonfarm income, operating expenses, capital expenditures, and other expenditures. These figures provide information for completing the annual flow-of-funds statement and the farm income statement. The flow-of-funds statement will help the farmer to estimate the amounts and the timing of his credit needs, as well as the availability of funds for repayment of loans. The statement can also be of valuable use to the farmer in planning his investment program.

Operating and capital sales entries are made by months and include only the operator's share of sales. Livestock and livestock product sales are taken from the livestock budget (Exhibit C). Crop sales are taken from the crop usage budget (Exhibit D). Other farm receipts are estimated from previous years' experience or anticipated actions for the budget year.

Operating and capital expenditure entries are also made by months and include only the operator's share of expenditures. Feeder livestock purchases (line 13) are taken from the operating purchases column, livestock budget (Exhibit C). Feed purchased (line 18) is obtained from the crop usage budget (Exhibit D), purchases column, and from the supplement column, livestock feed requirements (Exhibit E). Seed and plant purchased (line 19), fertilizer and lime (line 20), and supplies purchased (line 22) are taken from the crop cost summary (Exhibit B), and machinery and equipment (line 32) and buildings, fence, and tile (line 33) are taken from capital improvements shown in Exhibit F. All other expenses are estimated from experience or records and adjusted for price changes.

Nonfarm income includes sources of funds that are available for use in the farm business or for family living and investment. Nonfarm wages (line 9) are wages and income from employment not related to the farm business. Other (line 10) includes returns from nonfarm investments, gifts, savings, and other money that is available for use during the planning period.

Other expenditures include those during the planning year that are not direct operating expenses or capital expenditures for the farm business during the planning period. Family living, etc. (line 35) includes expenditures for family living, savings, investment, life insurance, nonfarm business, income tax, and social security. Payments on previous commitments are payments on indebtednesses that were incurred previous to the budget period that must be paid during the budget period.

Finally, compute totals for lines 5, 8, 11, 12, 30, 34, 38, and 39.

Exhibit I: Annual Flow of Funds (see pages 10 and 11)

Transfer source of dollars (Exhibit H, line 12) to line 41. Transfer use of dollars (Exhibit H, line 39) to line 42.

The cash balance (beginning) (line 40) is the balance on hand at the beginning of each month. It corresponds to the cash balance (ending) (line 47) for the previous month. Each column must be completed, determining the cash balance (ending) (line 47) before proceeding to the next column or month because the beginning cash balance is needed to complete the column or monthly balance.

The balancing of the flow of funds is accomplished by adding the cash balance (beginning) (line 40) and the source of dollars (line 41), and subtracting use of dollars (line 42) to obtain the cash difference (line 43). In order to maintain a minimum cash balance if the cash difference is to small, borrowed money (line 44) is added to the cash difference to make a satisfactory cash balance (ending) (line 47). If an excessive cash balance exists, then payment on current loan (line 45) with interest payment (line 46) many be made. The minimum balance will vary from case to case depending on the size of the farm business and the demands of the family to allow for unexpected delay in sources of income.

The example in Exhibit I for the month of January is as follows:

40. Cash balance (beginning)	$1,000
41. Source of dollars	0
42. Use of dollars	1,016
43. Cash difference (40 + 41 − 42)	(16)

Since the cash difference is below the desired level to maintain a minimum positive balance, a sum of $1,000 is borrowed and the summary is completed as follows:

43. Cash difference	$(16)
44. Money borrowed this year	1,000
47. Cash balance (ending)	984

The January cash balance (ending) (line 47) is entered in the February cash balance (beginning) (line 40). The summary for February is as follows:

40. Cash balance (beginning)	$ 984
41. Source of dollars	11,282
42. Use of dollars	3,590
43. Cash difference (40 + 41 − 42)	8,676

Since the total is more than is required for a minimum balance, repayment of part of the current loan plus interest is made and the summary appears as follows:

43. Cash difference	$8,676
45. Payment on current loans	7,000
46. Interest payments	215
47. Cash balance (ending)	1,416

Each month is individually summarized as illustrated in the examples shown above. The 12 monthly totals added together should equal the yearly totals for lines 41 through 46. The yearly total and the January total are the same for line 40. The December total and the yearly total are the same for line 47.

Summarize the accumulated borrowings on line 48. For example, at the beginning of the year $8,000 was outstanding. In January, $1,000 was borrowed as indicated on line 44, leaving an accumulated balance of $9,000 for January on line 48. In February, $7,000 was paid on the loan as indicated on line 45, leaving a balance of $2,000 on line 48. Continue month by month adding line 44 and subtracting line 45 to complete the accumulated borrowings.

When the procedures for each month are followed as outlined above, the annual flow of funds is completed. This summary indicates when borrowed funds will be needed and when repayment of loans can be made or surplus money may be invested.

Exhibit J: Farm Income Statement (see page 14)

The farm income statement or profit and loss indicates the returns to unpaid labor, equity capital, and management for the budget year. The information to complete this statement comes from the annual financial budget (Exhibit H), the inventories from the livestock and crop usage budgets (Exhibits C and D), and the depreciation schedule of the farm account record.

Cash sales are transferred from Exhibit H, line 5.

Capital sales of livestock are taken from Exhibit H, line 6. Machinery and equipment sales are taken from Exhibit H, line 7. Cost or basis of livestock is the beginning inventory value of the livestock sold as it appears on the livestock budget sheet (Exhibit C). Cost or basis of machinery is the value at the beginning of the year as it appears on the depreciation schedule. The net capital gains figure is the difference between the capital sales and the cost or basis.

Ending inventory of feed and grain is taken from Exhibit D, ending inventory of livestock is taken from Exhibit C, and beginning inventory of feed and grain is taken from Exhibit D. Beginning inventory of livestock is taken from Exhibit C, but is adjusted by the amount of cost or basis of livestock sold as capital sales. Net inventory change is the difference between ending inventory and beginning inventory.

Total gross income is computed by adjusting cash sales with net capital gains or net inventory change. Either of these figures may be positive or negative in their effect.

Cash operating expenses are taken from Exhibit H, line 30.

Interest paid expenses are taken from Exhibit H, lines 37 and 46.

Depreciation expense is taken from farm account records or income tax reports.

Total operating costs are the sum of cash operating expenses, interest paid, and depreciation.

Net income is the total gross income less the total operating costs.

APPENDIX: TOOLS FOR LONG-RANGE PLANNING

The major focus of this publication has been concentrated on annual financial planning. However, a successful farm business must also give attention to long-range planning. The Appendix illustrates the use of some tools to assist the manager in taking a longer look at his business. These tools include the net worth statement (Exhibit K), the flow of funds statement (Exhibit L), the summary of indebtedness (Exhibit M), and the partial budget (Exhibit N).

Exhibit K: Net Worth Statement (see page 15)

The net worth statement is a summary of a person's or business's financial position at a particular point in time. A series of statements for comparable dates over a period of years is a basis for determining the financial progress of a person or business over time. Past trends give some evidence of what might be expected in the future.

EXHIBIT J

FARM INCOME STATEMENT

(Profit and Loss)

Name____________________

Address____________________

Cash Sales (5)			65,264
Capital Gains or Losses	Livestock	Machinery	
Capital sales	685		
Less cost or basis	640		
NET CAPITAL GAINS	45		45
Inventory Change	Feed and grain	Livestock	
Ending inventory	25,143	32,740	
Beginning inventory	25,847	32,100	
NET CHANGE	(704)	640	(64)
Total Gross Income			65,245

Expenses		
CASH OPERATING EXPENSES (30)	45,219	
INTEREST PAID (37 + 46)	586	
DEPRECIATION	5,917	
TOTAL OPERATING COSTS		51,722
Net Income (returns to unpaid labor, equity capital, management)		13,523

EXHIBIT K

NET WORTH STATEMENT

ASSETS	Jan. 1, 19____	Jan. 1, 19____
CURRENT		
1. Cash on hand	1,000	1,194
2. Accounts receivable		
3. Marketable securities		
4. Cash surrender value of life insurance	1,350	1,500
5. Livestock held for sale	32,100	32,100
6. Crops held for sale and feed	25,847	25,143
7. Cash investment in growing crops		
8. Other	1,800	2,440
9. Total current assets	62,097	62,377
INTERMEDIATE		
10. Autos and trucks (net)	3,500	2,500
11. Machinery and equipment (net)	19,500	27,583
12. Breeding and dairy livestock	640	640
13. Securities (not readily marketable)		
14. Other		
15. Total intermediate assets	23,640	30,723
FIXED		
16. Land		
17. Farm improvements		
18. Non-farm real estate	15,000	15,000
19. Other		
20. Total fixed assets	15,000	15,000
21. **Total Assets**	100,737	108,100
LIABILITIES		
CURRENT		
22. Notes payable	8,000	13,500
23. Accounts payable		
24. Portion of intermediate debt due this year		
25. Portion of fixed debt due this year	800	800
26. Rent, taxes, and interest due and unpaid	375	327
27. Loans against cash surrender value of life insurance		
28. Other		
29. Total current liabilities	9,175	14,627
INTERMEDIATE		
30. Notes payable (less portion applied to current liabilities)		
31. Other		
32. Total intermediate liabilities		
FIXED		
33. Mortgages on real estate (less portion applied to current liabilities)		
34. Mortgages on other real etstate (less portion applied to current liabilities)	5,450	4,650
35. Total fixed liabilities		
CONTINGENT		
36. Accrued income tax on unrealized asset appreciation		
37. **Total Liabilities**	14,625	19,277
38. **NET WORTH**	86,112	88,823

EXHIBIT L

FLOW OF FUNDS STATEMENT

	ACTUAL		
Sources of Funds	19	1970	1971
1. Net farm income		13,523	13,500
2. Depreciation		5,917	3,860
3. Other income			
4. Money borrowed this year		28,700	7,510
5. Decrease in inventory		704	
6. Decrease in bank balance			
7. Total sources		48,844	24,810
Uses of Funds			
8. New investments: machinery, buildings		15,075	75
9. Withdrawals — family living — taxes, soc. sec.		9,200	9,200
10. Non-farm business expenses			
11. Non-farm investment and savings		1,175	1,175
12. Repayment on borrowed		23,200	14,360*
13. Increases in inventory			
14. Increases in bank balance		194	
15. Total uses		48,844	24,810
BALANCE			

EXHIBIT M

SUMMARY OF INDEBTEDNESS

	19	19	19
1. Real estate (NON-FARM INVESTMENT)		6,250	5,450
2.			
3. Intermediate			
4.			
5. Contract purchases			
6.			
7. Short-term notes		8,000	13,500
8.			
9. Accounts payable			
10.			
11. Other			

PROJECTED					
1972	19	19	19	19	19
15,000					
3,860					
18,860					
80					
9,200					
1,540					
8,040**					
18,860					

SS Beginning of the year)

19	19	19	19	19	19
4,650	3,850				
7,510					

* Repayment of \$13,500 principal and \$860 interest
** Repayment of \$7,510 principal and \$530 interest

Assets. Current assets consist of cash or other assets that will be normally converted to cash during the course of the business year. Certain other assets that can be quickly converted to cash, such as marketable securities and cash value of livestock, are usually classified as current assets.

Intermediate assets consist of those assets used primarily to support farm production rather than those that are expected to be sold or converted into cash through the normal flow of sales. These assets are distinguished from fixed assets because they have a more limited useful life.

Fixed assets are permanent in nature and consist primarily of farmland and its improvements and other real estate. Nonfarm property and household furnishings are also classified as fixed assets.

Liabilities. Current liabilities are those due and payable on demand or within the operating year. Note that the portion of intermediate and fixed liabilities due within the next 12 months is included as current liabilities.

Intermediate liabilities include non-real estate notes and contracts for the purpose of meeting other than seasonal needs. Terms are normally for periods of more than 12 months and less than 10 years.

Fixed liabilities consist of mortgages and contracts on farm and nonfarm property.

Note the adjustment in both intermediate and fixed liabilities made for the portion of loans due during the next 12 months which are included as current liabilities.

Contingent liabilities are those liabilities that, because of their indirect nature, indefinite amount, or uncertain existence, are not reflected as direct liabilities. In the event of certain developments, these could become actual liabilities. The main concern is with the income tax liability resulting from the appreciation in value of property.

Exhibit L: Flow of Funds Statement (see pages 16 and 17)

The annual financial budget and the annual flow of funds statements describe the process whereby the business matches up sources and uses of cash during the planning year. The flow of funds statement (Exhibit L) provides for projecting the sources and uses of funds for several years into the future to indicate the way in which intermediate and long-term debt repayments can be made from reserves for depreciation and net income.

The actual flow of funds shown for 1970 reflects the total borrowed money and the total repayment of borrowed money during the year. The projected flow of funds indicates the repayments of borrowed money outstanding at the beginning of the year and the money borrowed to equalize total sources with total uses. Change in inventory and bank balance are assumed to be zero in the projected years. Minor balances in funds may be absorbed in new investments or savings.

Exhibit M: Summary of Indebtedness (see pages 16 and 17)

This form provides a summary of indebtedness at the beginning of the year. It indicates the types of indebtedness to assist in planning debt retirement and computations of projected flow-of-funds statements.

Exhibit N: Partial Budget (see page 19)

The partial budget is a very useful tool when decisions or changes that affect only a part of the farm business are involved. Only receipts and costs that will be changed by the decision are included in the budget. Some examples of changes that may be considered are the purchase of new machinery, custom hiring machine work, leasing of machinery, construction of a new building, changing the size of a livestock enterprise, changing from one livestock enterprise to another, reducing the number of acres of one crop and increasing the acreage of another crop, introducing a new crop, and buying or renting more land.

Partial budgeting is an excellent procedure but it is only as good as the data used in arriving at the answer. In making a partial budget, the following items should be considered:

Include every item of cost that will be affected by the change.

Include every item of returns that will be affected.

Use realistic and reliable cost figures.

Use reasonable and realistic figures for yields and prices complete your returns.

It may be best to try several alternative plans before arriving at a decision.

The example shown in Exhibit N illustrates the use of a partial budget to help determine whether to buy a new self-propelled combine with a corn head or to hire a custom operator. The farmer harvests about 195 acres of corn and 195 acres of soybeans each year. He can buy a combine with cutterbar for soybeans for about $13,000. A four-row, 30-inch corn head will cost him about $4,500. He would plan to keep the equipment for 8 years before trading. Should he purchase this equipment or hire a custom operator to harvest his crop? The custom rate will probably average $10 for corn and $7 for soybeans for the next 8 years.

The additional costs that must be considered if the combine and corn head are purchased are depreciation,

EXHIBIT N

PARTIAL BUDGET

Adjustment: To purchase $13,000 combine and $4,500 corn head to harvest 195 acres of corn and 195 acres of soybeans or custom hire corn harvest at $10 per acre and soybean harvest at $7 per acre.

Additional costs	$	Additional returns	$
Depreciation		195 A. Corn X 2.50	488
Combine $\frac{13000-3800}{8}$ =	1150		
Corn head $\frac{4500-1000}{8}$ =	438		
Interest, insurance, housing			
combine $\frac{13000+3800}{2} \times .10$ =	840		
corn head $\frac{4500+1000}{2} \times .10$ =	275		
Repairs: Combine 1960 ÷ 8 =	245	**Reduced costs**	$
Corn head 790 ÷ 8 =	99	Custom harvesting	
Fuel 390 A. annually X 54¢ =	211	195 X $10 harvest corn	1950
Labor 15 days at $4/hr. =	600	195 X 7 harvest soybeans	1365
Reduced returns	$		
A. Total annual additional costs and reduced returns	$3858	B. Total annual additional returns and reduced costs	$3803
			$
		Net change in income (B minus A)	$ 55

interest, shelter, repairs, fuel, oil, lubrication, and labor.

Annual depreciation is the purchase price less the salvage value divided by the number of years.

The annual interest, insurance, and housing cost is one half of the total of the purchase price and the salvage value times 10 percent of the annual charge for interest, insurance, and housing.

Annual repairs cost is the estimated repair cost of the equipment during its lifetime divided by the number of years the equipment will be used.

Fuel, oil and lubrication costs are the annual acres times the cost per acre.

Labor cost is the days of labor per year times the daily rate.

Reduced returns include any loss of income resulting from the decision. In the example shown in Exhibit N, there are no reduced returns.

Additional returns result from more timely harvest of corn because it is not necessary to wait for the services of a custom operator.

The reduced cost would be the cost of hiring the custom operator. If the farm operator owns his own machine, his costs are reduced by not having to hire a custom operator.

Now total the additional costs and reduced returns. Then total additional returns and reduced costs.

The net change in income (B-A or A-B) indicates what decision should be made and the dollar advantage. In this case it would be advantageous to hire the harvesting because the B figure is less. However, since the annual difference is so small, the farmer might decide to proceed with the purchase of harvesting equipment if he has underestimated the added returns from owning his own machine or if he has a certain amount of pride of ownership that would influence him.